



Agricultural Research, Extension, and Education: Farm Bill Issues

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Summary

The 110th Congress passed an omnibus farm bill (Food, Conservation, and Energy Act of 2008, P.L. 110-246) to authorize and direct the implementation of the U.S. Department of Agriculture's (USDA's) major programs across the spectrum of its mission areas through FY2012. The enacted bill reorganizes the Department's Research, Education, and Economics mission area, which currently comprises four agencies that separately administer intramural and extramural programs supporting agricultural research and development (R&D).

The research title of P.L. 110-246 (Title VII) classifies all current research, extension, and education programs into two groups—capacity programs and competitive programs—based upon the way in which their funding is distributed to recipients. Title VII creates an umbrella coordinating entity known as the Research, Education, and Extension Office (REEO) in the Office of the Under Secretary for Research, Education, and Economics, and designates the Under Secretary as the Chief Scientist of USDA. The REEO will coordinate and plan both capacity and competitive programs, as well as USDA-administered intramural (Agricultural Research Service (ARS)) and extramural programs. Extramural programs (both capacity and competitive), currently administered by the Cooperative State Research, Education, and Extension Service (CSREES), will be transferred to a new National Institute for Food and Agriculture (NIFA), and CSREES will cease to exist on October 1, 2009.

Within the new NIFA, the existing National Research Initiative Competitive Grants Program (NRI) will be expanded into an Agriculture and Food Research Initiative (AFRI). It will incorporate the purposes of the former Initiative for Future Agriculture and Food Systems (IFAFS), whose authority the new farm bill repeals.

The House and Senate versions of the farm bill would have provided \$865 million and \$160 million, respectively, in mandatory funding for certain research programs over the five-year life of the bill. The enacted bill provides a total of \$333 million in mandatory funds for (1) a new specialty crop research initiative (\$230 million); (2) research on fresh produce food safety (\$25 million); and (3) organic agriculture research (\$78 million).

The enacted farm bill research title includes major initiatives to provide capacity-building support to Hispanic-serving agricultural colleges and to make them eligible to receive funding through a wider range of grant programs.

This report will not be updated.

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Background

The U.S. Department of Agriculture (USDA) is responsible for conducting agricultural research at the federal level, and for providing partial support for cooperative research, extension, and post-secondary agricultural education programs in the states. This mission area of USDA is called Research, Education, and Economics (REE). In addition to research in the biological sciences, the mission also includes substantial economic data collection and analysis.¹

The state partners are the colleges of agriculture at land grant universities in 50 states and eight U.S. territories, with their affiliated state agricultural experiment stations, schools of forestry and veterinary medicine, and cooperative extension. There also are 18 historically black land grant colleges of agriculture (the 1890 institutions) and more than 30 Native American colleges that gained land grant status in 1994 (referred to as the tribal colleges). Small grant programs have supported agricultural education at Hispanic-serving institutions, and at Alaskan and Hawaiian native-serving institutions. The omnibus farm bill enacted May 22, 2008, also extends eligibility for certain research, education, and extension programs to non-land grant institutions that offer degree programs in agriculture.

Key Issues

USDA differs from other federal research agencies in allocating the majority of its annual research appropriation directly to in-house research (ARS, ERS, and NASS). Most federal science agencies primarily fund extramural research through a competitive, peer-reviewed grant process. The National Academy of Sciences (NAS) has recommended for more than a decade that at least 35% of total USDA research money be distributed competitively. When the Academy first made its recommendation in 1989, it determined that less than 6% of USDA's research funding was competitively awarded. In FY2006 it was approximately 14%, according to CRS calculations.

The primary and longest-standing mechanisms for distributing annual federal appropriations to the colleges of agriculture at the state land grant universities are contained in the Hatch Act of 1887 (for cooperative research) and the Smith-Lever Act of 1914 (for extension activities). Formulas set forth in each of these acts determine how annual federal appropriations are divided among states. The majority of funding for state-level programs, however, comes from state appropriations, competitive grants from USDA and other federal agencies, and private industry. States are required to match Hatch and Smith-Lever formula funds; most states appropriate three to four times the federal allotment. Nonetheless, despite the fact that federal formula funds represent only a small percentage of total funding at the state level, they traditionally have been viewed by state research and extension directors as a very reliable source of support for their core programs.

¹ Under the REE mission, the USDA is responsible for conducting agricultural research at the federal level, and for providing partial support for cooperative research, extension, and post-secondary agricultural education programs in the states. The USDA's intramural activities are carried out by the Agricultural Research Service (ARS), Economic Research Service (ERS), and National Agricultural Statistics Service (NASS). The federally funded extramural activities are managed by the Cooperative State Research, Education, and Extension Service (CSREES). For additional background information on the REE mission area, see CRS Report RL33327, *Agricultural Research, Education, and Extension: Issues and Background*.

Congress has set the policies and authorized the funding for USDA's research, education, and extension programs as part of omnibus farm bills since 1977. Permanent authority for most of the programs resides in older laws, but the farm bill renews the authorization for appropriations.

To address the challenges posed by the perceived need to increase competitive grants in agriculture, several major proposals released in advance of congressional debate on the research title recommended significant changes in how ARS and CSREES are structured and administered.

Proposals for Change

Administration's Proposal

In the comprehensive farm bill proposal that USDA released in February 2007, the Administration proposed to rename the Research, Education, and Economics mission area the Office of Science, and to merge ARS and CSREES into a single agency conducting both intramural and extramural programs under the leadership of a Chief Scientist. The proposal called for the current formula-funded authorities to be retained. ERS and NASS would be the other two agencies also under the Office of Science. The Administration maintained that an integration of budgets and programs would provide more efficient and effective program implementation and resource allocation. In its call for a unified budget and a single scientific agency, this proposal mirrored some of the key aspects of the land grant system's CREATE-21 proposal (see below).²

2002 Farm Bill Task Force Proposal

In Section 7404 of the 2002 farm bill (P.L. 107-171), Congress commissioned a task force "to conduct a review and evaluation of the merits of establishing one or more National Institutes focused on disciplines important to the progress of food and agricultural sciences," among other things. The task force recommendations, released in July 2004, called for the formation of a National Institute for Food and Agriculture (NIFA) within USDA "to supplement and enhance, not replace, the existing research programs." The task force conceived of the NIFA as a separate entity solely for awarding competitive peer-reviewed grants, and called for an annual budget for the institute to build to \$1 billion over a five-year period.³ The task force proposal was reflected in companion House and Senate bills prior to congressional activity on drafting a farm bill (H.R. 2118 (C. Peterson)/S. 971 (Bond)). The bills would have provided mandatory funds for the NIFA starting at \$245 million in FY2008 and increasing to \$966 million by FY2012.

Land Grant Organization Proposal

The National Association of State Universities and Land Grant Colleges (NASULGC) put forth a comprehensive recommendation for reorganizing the REE system after a nationwide deliberative process within the land grant system. These proposals were reflected in H.R. 2398 (Barrow)/S. 1094 (Stabenow). The key provisions included (1) putting all of USDA's intramural and

² The full Administration proposal is available online at <http://www.usda.gov/documents/07finalfbp.pdf>.

³ *National Institute for Food and Agriculture: A Proposal*, report of the Research, Education, and Economics Task Force of USDA, July 2004. The report is available online at <http://www.ars.usda.gov/Research/Research.htm>.

extramural research, education, and extension agencies (including the research arm of the Forest Service) under one administrative body, working with a unified budget; (2) providing \$200 million annually in mandatory funds and substantial annual increases in appropriated funds (to 171.5% of the current level of \$2.67 billion) in FY2012; and (3) providing opportunities for minority and smaller schools, both land grant and non-land grant, to expand their capacity for agricultural research, education, and extension. The NASULGC proposal, called CREATE-21, was widely but not unanimously endorsed by the colleges of agriculture at the land grant universities.⁴

Farm Bill Action

In June 2008, the 110th Congress completed action on the 2008 omnibus farm bill, the Food, Conservation, and Energy Act of 2008, P.L. 110-246. This enacted legislation included aspects of proposed changes to the research title of the House-passed (H.R. 2419) and Senate-passed farm bill (introduced as a substitute amendment to H.R. 2419). Both the House and Senate bills drew heavily on the recommendations of USDA and NASULGC.⁵

House- and Senate-Passed Bills

The House version called for creating, within the Office of the Under Secretary for Research, Education, and Economics, an overall coordinating organization known as the National Agricultural Research Program Office (NARPO) with six specialized directors.⁶ NARPO's six subject-area directors would work with the existing National Agricultural Research, Extension, Education, and Economics Advisory Board to coordinate and plan both the capacity and competitive programs of the REE agencies. The directors of NARPO would become the primary program leaders, incorporating the duties of the currently separate ARS and CSREES national program staffs.

Additionally, the House bill called for establishing a National Institute of Food and Agriculture (NIFA) within CSREES that would oversee extramural competitive research grants only. NIFA would merge USDA's two major competitive grant programs—the National Research Initiative (NRI) and the Initiative for Future Agriculture and Food Systems (IFAFS).⁷ The NRI portion of the combined program would focus on fundamental, basic research, and receive 60% of the available funding. The IFAFS portion would focus on applied, integrated research, education, and extension projects, and receive 40% of the available funding. The title would reauthorize appropriations for the NRI at \$500 million annually through FY2012, and provide for the transfer of IFAFS's mandatory funding.⁸

⁴ Both the NASULGC document and the legislative proposals are under the title "Creating Research, Extension, and Teaching Excellence for the 21st Century" or "CREATE-21"; see <http://www.create-21.org/>.

⁵ CRS Report RL34696, *The 2008 Farm Bill: Major Provisions and Legislative Action* presents a side-by-side tabular comparison of current law and the House and Senate bills, including the research titles.

⁶ NARPO would be composed of individual institutes for (1) renewable energy, natural resources, and environment; (2) food safety, nutrition, and health; (3) plant health and production; (4) animal health and production and animal products; (5) agriculture systems and technology; and (6) agriculture economics and rural communities.

⁷ IFAFS was authorized in a free-standing agricultural research law in 1998 (P.L. 105-185).

⁸ The Deficit Reduction Act of 2007 (P.L. 109-171) cancelled the currently authorized annual \$200 million in (continued...)

The House bill, in support of a more centralized administration of the agencies, called for the President to submit a unified annual budget reflecting the total amount requested for each of two categories of mission area programs. The first category, called capacity-building programs, included all of the formula-funded programs, support for research at the tribal colleges, the 1890 colleges, the Hispanic-serving institutions, and other selected programs. The second budget category, called competitive programs (administered by the new NIFA), reflected the total amount requested for all programs that distribute funds through peer-reviewed, competitive processes.

The House bill provided a substantial amount of mandatory research funding, totaling \$865 million over the five-year life of the farm bill. The existing Organic Research and Extension Initiative received \$25 million in total mandatory funds for FY2008-FY2012 and \$25 million in annual appropriations authority for FY2009-FY2012. A new Specialty Crop Research Initiative received a total of \$215 million in mandatory funds in addition to annual appropriations authority of \$100 million for FY2008-FY2012. The effort to improve the safety of fresh cut produce was provided an additional total of \$25 million in mandatory funds to supplement the annual appropriation. Also, the House bill preserved mandatory funding of \$200 million for IFAFS for FY2010-FY2012. Discretionary programs were maintained largely as in the previous farm bill and most were authorized to receive appropriations of such sums as necessary.

The Senate-passed amendment called for terminating CSREES and recasting the agency as the National Institute of Food and Agriculture. The institute was to plan, coordinate, and manage all existing extramural USDA research, education, and extension funds (competitive grants, capacity-building grants, and formula funds). The NIFA director was to report directly to the Secretary of Agriculture (not through the Under Secretary). The bill explicitly directed the Under Secretary to coordinate research between ARS and NIFA, and to recommend funding for all the programs within USDA's research mission area.

The Senate bill provided \$160 million in mandatory research funding over the five-year life of the farm bill. This bill reauthorized the Organic Research and Extension Initiative with \$16 million in annual mandatory funds for FY2008-FY2012. A new Specialty Crop Research Initiative received \$16 million in annual mandatory funds for FY2008-FY2012. Mandatory funds for the Initiative for Future Agricultural and Food Systems (IFAFS, which was to be a program within NIFA) were eliminated and replaced with annual appropriations of such sums as necessary. As with the House bill, discretionary programs were maintained largely as in the previous farm bill and most were authorized to receive appropriations of such sums as necessary.

Other new provisions in the both the House and Senate bills included (1) a grant program to help non-land grant public colleges and universities improve their capacity for agricultural research, education, and outreach; (2) establishment of an endowment fund, similar to that established for the tribal colleges, to provide a continuing base of support for Hispanic-serving agricultural colleges; (3) establishment of institutional capacity-building and competitive grant programs for the Hispanic-serving colleges; and (4) a larger commitment to bioenergy and biobased products.

(...continued)

mandatory funds for IFAFS in FY2007 through FY2009. Funding for the program would resume in FY2010 at \$200 million annually unless Congress changes it in the 2007 farm bill.

Enacted 2008 Farm Bill

The enacted 2008 farm bill (Food, Conservation, and Energy Act of 2008, P.L. 110-246) reorganizes the Department's Research, Education, and Economics mission area, which currently comprises four agencies that separately administer intramural and extramural programs supporting agricultural research and development (R&D).

The enacted farm bill's research title (Title VII) classifies all current research, extension, and education programs into two groups—capacity programs and competitive programs—based upon the way in which their funding is distributed to recipients. Title VII creates an umbrella coordinating entity known as the Research, Education, and Extension Office (REEO) in Office of the Under Secretary for Research, Education, and Economics, and designates the Under Secretary as the Chief Scientist of USDA. The REEO will coordinate and plan both capacity and competitive programs, as well as USDA-administered intramural (Agricultural Research Service (ARS)) and extramural programs. Extramural programs (both capacity and competitive), currently administered by the Cooperative State Research, Education, and Extension Service (CSREES), will be transferred to a new National Institute for Food and Agriculture (NIFA), and CSREES will cease to exist on October 1, 2009.

Within the new NIFA, the existing National Research Initiative Competitive Grants Program (NRI) will be expanded into an Agriculture and Food Research Initiative (AFRI). It will incorporate the purposes of the former Initiative for Future Agriculture and Food Systems (IFAFS), whose authority the new farm bill repeals.

The enacted 2008 farm bill also makes changes regarding how some research contracts and grants are awarded, and increases the emphasis on the need for a competitive bid process. For example, the enacted bill switches certain Smith-Lever 3(d) special emphasis extension funds⁹ from being awarded on a formula basis to competitive bid. Also, in general, the farm bill increases money mostly for research programs that are competitively awarded, such as programs for specialty crops, biomass, and organic production, and also for beginning farmer research programs.¹⁰ These changes reflect statements in the conference committee's manager's report noting that "the Managers recognize the numerous benefits of competitive research programs and have supported the expansion of funding for these programs." The manager's report also "encourage[s] the Department to make every effort to increase support for competitive programs while maintaining the needs of capacity and infrastructure programs when making budgetary decisions."¹¹

The **Appendix** compares the agricultural research, extension, and education policies set in the 2002 farm bill (P.L. 107-171) with the provisions in the House- and Senate-passed versions of H.R. 2419, and the enacted Food, Conservation, and Energy Act of 2008 (P.L. 110-246).

⁹ Smith-Lever 3(d) funds provide support to State and territory programs in Integrated Pest Management (IPM); Sustainable Agriculture Research and Education Farm Safety funds, which support health and safety efforts in the agricultural sector; and National Children, Youth, and Families at Risk, Federally Recognized Tribes Extension Program and Expanded Food and Nutrition Education Program, which support the nutritional education needs of the underserved, targeting citizens with limited incomes [7 *U.S.C. 343(d)*].

¹⁰ A breakout of the major research areas is provided in CSREES budget: http://www.csrees.usda.gov/about/offices/budget/09_budget_brochure.pdf.

¹¹ Joint Explanatory Statement of the Committee of Conference, Title VII, http://agriculture.house.gov/inside/Legislation/110/FB/Conf/statement_of_managers.pdf.

Appendix. Comparison of the Research Titles of the House- and Senate-Passed Farm Bills and the Enacted Bill (P.L. 110-246)

Prior Law/Policy	House-Passed Bill (H.R. 2419)	Senate-Passed Substitute Amendment (H.R. 2419)	Food, Conservation, and Energy Act of 2008 (P.L. 110-246)
TITLE VII: AGRICULTURAL RESEARCH			
Structure and Funding of Research, Education, and Extension			
Existing policy functionally categorized Cooperative State Research, Education, and Extension Service (CSREES) programs for state-level research, education, or extension activities as “formula funded” or “competitive.”	Formally categorizes each existing CSREES program as a “capacity program” or “competitive program,” and designates the current level of funding for each category as “critical base funding.” [Sec. 7101]	Formally categorizes each existing CSREES program as an “infrastructure program” (i.e., capacity program) or “competitive program,” as in the House provision. [Sec. 7401]	Defines the terms capacity, infrastructure, and competitive programs [Sec. 7511]; critical base funding; Hispanic-serving institutions; non-land grant colleges of agriculture [Sec. 7101]; and 1862, 1890, and 1994 institutions for the purposes of restructuring the Research, Education, and Economics mission area as outlined in this act. [Sec. 7501]
The 1994 USDA reorganization act merged the Extension Service with the Cooperative State Research Service to establish CSREES. The Agricultural Research Service (ARS) was established in its current form in 1953. Both agencies are under the jurisdiction of the Undersecretary for Research, Extension, and Economics. [7 U.S.C. 6971]	Establishes a National Agricultural Research Program Office (NARPO) under the Under Secretary, with six sub-offices organized by research focus. The provision integrates the administrative functions of ARS’s and CSREES’s respective National Program Leaders, but retains the separate agencies. [Sec. 7104]	Directs the Undersecretary to coordinate the programs under the authority of the ARS and CSREES national program leaders, as well as the Director of the National Institute of Food and Agriculture. [Sec. 7402]	Reflects the House provision but changes the name to the Research, Education, and Extension Office (REEO). Establishes a National Institute of Food and Agriculture as of October 1, 2009. The new Institute comprises all the programs of the former CSREES. [Sec. 7511]
The National Research Initiative (NRI) grant program is an expansion of a 1990 farm bill program initially authorized in 1965, funded by annual appropriations 7 U.S.C. 450i). The Initiative for Future Agriculture and Food Systems (IFAFS) is a mandatory-funded grant program, which was first authorized in the Agricultural Research, Extension, and Education Reform Act of 1998 (AREERA, P.L. 105-185), reauthorized in the 2002 farm bill. [7 U.S.C. 7621]	Merges the existing NRI and IFAFS grant programs and groups them with all other competitive grant programs currently administered by CSREES to become the National Institute of Food and Agriculture (NIFA). [Sec. 7105]	CSREES is terminated as an agency; all of its competitive and infrastructure programs are to be administered under the National Institute of Food and Agriculture. [Sec. 7401]	Amends the statute authorizing the NRI to create a new Agriculture and Food Research Initiative to make competitive grants for fundamental and applied research, and for purchasing research equipment. Repeals 7 U.S.C. 7621 (IFAFS) Authorizes \$700 million annually from FY2008 through FY2012. [Sec. 7406]

Prior Law/Policy	House-Passed Bill (H.R. 2419)	Senate-Passed Substitute Amendment (H.R. 2419)	Food, Conservation, and Energy Act of 2008 (P.L. 110-246)
Matching funds are not required for NRI and IFAFS grants; they may be required for certain applied research grants. [IFAFS 7 U.S.C. 7621; NRI 7 U.S.C. 450(b)]	Creates two categories of research grants; fundamental research (to be called NRI grants); and applied research (to be called IFAFS grants). Matching funds are required for IFAFS grants, not for NRI grants. Authorizes \$500 million in annual appropriations, and transfers mandatory IFAFS funds to support the merged NRI/IFAFS program. [Sec. 7106]	No comparable provision.	Requires 50% matching funds for equipment grants and 100% matching funds for applied research grants on topics that are commodity-specific and not of national scope. [Sec. 7406]
Most research and extension programs appear as individual line items in the President's annual budget request.	Requires the President to submit an annual budget making a single line item request for capacity programs and a single line item request for competitive programs. [Sec. 7102]	Directs the Under Secretary for Research, Education, and Economics to submit a "roadmap" that, among other things, describes recommended funding for competitive programs and infrastructure programs as unified categories, with some flexibility in implementation. [Sec. 7402]	Requires the President to submit an annual budget making a single line item request for all programs under the Research, Education, and Economics mission area. Retains Senate language regarding a "roadmap." Recommends that budget emphasis within the request for capacity/infrastructure base funding be on certain institutions, and within competitive base funding, on emerging problems. [Sec. 7504 and 7506]
Sec. 1403 of the National Agricultural Research, Extension, and Teaching Policy Act of 1977 (NARETPA, Title XIV of P.L. 97-98) sets out the purposes of agricultural research and extension. [7 U.S.C. 3101]	Adds integrating and organizing all USDA research, extension, and education programs; minimizing duplication; and maximizing cooperation to the purposes of the Department's research mission. [Sec. 7103]	No comparable provision.	Deletes House provision.
Prior law limited eligibility for formula funded and other non-competitive research, extension, and education programs to 1862 & 1890 institutions, 1994 institutions (tribally controlled colleges), and Hispanic-serving institutions. [7 U.S.C. 361a, 343]	Expands eligibility for these programs to public non-land grant institutions offering 4-year degrees in agriculture (American Association of State Colleges of Agriculture and Renewable Resources, or ASCARR institutions). [Sec. 7102]	Requires the "roadmap" to include consideration of the needs of ASCARR institutions in addition to those of the 1862, 1890, 1994, and Hispanic-serving institutions. [Sec. 7402]	Adopts Senate provision. [Sec. 7504]

Prior Law/Policy	House-Passed Bill (H.R. 2419)	Senate-Passed Substitute Amendment (H.R. 2419)	Food, Conservation, and Energy Act of 2008 (P.L. 110-246)
<p>Prior law authorized capacity-building grant programs for 1890 and 1994 institutions, and Hispanic-serving institutions. [7 U.S.C. 3152]</p>	<p>Authorizes the appropriation of such sums as necessary for a new capacity-building grant program for ASCARR institutions. [Sec. 7107]</p>	<p>No comparable provision.</p>	<p>Authorizes capacity-building grants to ASCARR institutions [Sec. 7138]; and changes the term from ASCARR institutions to non-land grant college of agriculture (NLGCA) institutions. [Sec. 7101]</p>
<p>Sec. 1417 of NARETPA makes land grant and non-land grant, high minority enrollment, and secondary and post-secondary institutions eligible for higher education grants. [7 U.S.C. 3152]</p>	<p>Expands eligibility for grants/fellowships for food and agricultural sciences education to include Agriculture in the K-12 Classroom programs, nonprofit organizations, and other institutions of higher education. [Sec. 7206]</p>	<p>Similar to the House bill. [Sec. 7007]</p>	<p>Adopts House provision. [Sec. 7109]</p>
<p>The Hatch Act and Smith-Lever Acts set the minimum amount of federal formula funds spent on multi-state research and extension projects at either 25% or twice the percentage of state matching funds, whichever is less. [7 U.S.C. 361a, 343]</p>	<p>Sets 25% as the minimum amount of federal formula funds that must be expended on multistate research and extension projects. [Sec. 7603]</p>	<p>No comparable provision.</p>	<p>Deletes House provision.</p>
<p>Annual work plans are required from states to receive federal funds under NARETPA, the Hatch Act of 1887 (for research), and the Smith-Lever Act (for extension). [7 U.S.C. 3101, 361a, 343]</p>	<p>Requires USDA to prepare a report for Congress on how to streamline the submission, reporting requirements, and implementation of plan-of-work requirements. [Sec. 7602]</p>	<p>Similar to the House bill. [Sec. 7503]</p>	<p>Requires a review of annual plans of work, but does not require a report on how to streamline the plan-of-work process. [Sec. 7505]</p>
<p>The 1998 research act (AREERA) requires CSREES to conduct merit reviews of non-competitive research and extension grants, and peer reviews of grants. [7 U.S.C. 7613]</p>	<p>Provides for the continuation, under NIFA, of the mandatory merit and peer review processes for non-competitive and competitive grants. [Sec. 7601]</p>	<p>No comparable provision.</p>	<p>Deletes House provision.</p>
<p>Sec. 1462(a) of NARETPA limits the amount of indirect costs that USDA reimburses to institutions that are awarded research, extension, and teaching grants to 19%. [7 U.S.C. 3310]</p>	<p>Amends Sec. 1462(a) to apply the 19% limitation on indirect cost reimbursement to any grant the institution receives, not just competitively awarded grants. [Sec. 7225]</p>	<p>Raises the limitation on reimbursement of indirect costs from 19% to 30% for competitively awarded research, extension, and teaching grants. [Sec. 7027]</p>	<p>Raises the limitation on reimbursement of indirect costs from 19% to 22%. [Sec. 7132]</p>

Prior Law/Policy	House-Passed Bill (H.R. 2419)	Senate-Passed Substitute Amendment (H.R. 2419)	Food, Conservation, and Energy Act of 2008 (P.L. 110-246)
Sec. 1408(g)(1) of NARETPA authorizes the National Agricultural Research, Extension, Education, and Economics Advisory Board. [7 U.S.C. 3123]	Increases authorized appropriations for the Advisory Board from \$350,000 to \$500,000 annually. [Sec. 7201]	Similar to the House bill. [Sec. 7002]	Increases the maximum annual appropriations for the Advisory Board to \$500,000. Reduces the number of Board members from 31 to 24. Adds representation from crop, livestock, aquaculture producer organizations. [Sec. 7102]
Subtitle K of NARETPA authorizes miscellaneous programs. [7 U.S.C. 3311]	No comparable provision.	Authorizes \$19 million annually through FY2012 for grants to the Consortium for Agricultural and Rural Transportation Research and Education. [Sec. 7051]	Adopts Senate provision. [Sec. 7529]
Sec. 103(a) of AREERA authorizes peer and merit review of research and extension grant applications. [7 U.S.C.7613(a)]	No provision.	No provision.	Amends AREERA to prohibit consideration of the availability of matching funds in reviewing grant proposals. [Sec. 7301]
Provisions Affecting Certain Research Institutions			
Sec. 1417 of NARETPA authorizes grants/fellowships to land grant colleges and universities for food and agricultural sciences education. [7 U.S.C. 3152]	Specifies that the University of the District of Columbia (UDC) be eligible to receive education grants and fellowships. [Sec. 7204]	Similar to the House bill. [Sec. 7004]	Makes UDC eligible to compete for food and agricultural sciences education grants. [Sec. 7106]
Sec. 1447 of NARETPA authorizes grants to upgrade agriculture and food science facilities at the 1890 institutions. [7 U.S.C. 3222b]	Extends eligibility to UDC for grants to upgrade facilities, and authorizes appropriations of \$750,000 annually through FY2012. [Sec. 7212]	Similar to the House bill. [Sec. 7020]	Authorizes \$750,000 in annual appropriations to upgrade agriculture and food science facilities at UDC. [Sec. 7124]
The District of Columbia Public Post-secondary Education Reorganization Act (P.L. 93-471) designates UDC as a land grant institution, with certain exceptions. [88 Stat. 1423]	Makes UDC eligible to receive funds for the Expanded Food and Nutrition Education Program (EFNEP). [Sec. 7512]	Similar to the House bill. [Sec. 7313]	Makes UDC eligible for EFNEP grants. [Sec. 7417]
The Hatch Act of 1887 authorizes federal funding for agricultural research in the states/U.S. territories. [7 U.S.C. 361a]	Exempts UDC from the matching funds requirement for Hatch Act funds. [Sec. 7513]	Requires 50% matching funds from the District of Columbia in order for UDC to be eligible for Hatch Act funds. [Sec. 7304]	Adopts Senate provision. [Sec. 7404]

Prior Law/Policy	House-Passed Bill (H.R. 2419)	Senate-Passed Substitute Amendment (H.R. 2419)	Food, Conservation, and Energy Act of 2008 (P.L. 110-246)
The 2002 farm bill amended NARETPA Sec. 1444(a)(2) to require that (1) federal support for extension at the 1890 institutions be at least 15% of the amount appropriated for extension at 1862 universities [7 U.S.C. 3221], and (2) federal support for research at the 1890 institutions be at least 25% of the amount appropriated for research at the 1862 universities. [7 U.S.C. 3222]	Increases the level of required federal support for (1) extension at the 1890 institutions to 20% of the amount appropriated for 1862 extension programs [Sec. 7215], and (2) research at the 1890 schools to 30% of the amount appropriated for research at the 1862 schools [Sec. 7216]	Identical to the House bill. [Sec. 7017-7018]	Adopts House and Senate provision. [Sec. 7121-7122]
Sec. 1434(b) of NARETPA defines which institutions are eligible for animal health/disease funding. [7 U.S.C. 3196]	No comparable provision.	Specifies that 1890 institutions are eligible to receive funding for animal health and disease research. [Sec. 7016]	Adopts Senate provision. [Sec. 7120]
The 2002 farm bill amended NARETPA Sec. 1449 to phase in increasing state matching funds for federal formula funds for research and extension at the 1890 institutions, reaching the 100% matching level in FY2007. [7 U.S.C. 3222d]	Makes permanent the requirement that states provide a 100% match to federal funds for research and extension at the 1890 colleges. [Sec. 7220]	Similar to the House bill. [Sec. 7022]	Extends 100% matching funds requirement for research and extension at the 1890 colleges through FY2012 and amends NARETPA to update permanent law and clarify current requirement of providing equal matching funds from non-federal sources. [Sec. 7127]
Sec. 3 of the Smith-Lever Act (extension) authorizes federal funds for cooperative state extension programs. [7 U.S.C. 343]	No comparable provision.	Makes 1890 institutions eligible for the Children, Youth, and Families Education and Research Network funds (CYFERNet). [Sec. 7303]	Adopts Senate provision. Requires Smith-Lever 3(d) special emphasis extension funds (of which CYFERNet is one) to be awarded competitively. [Sec. 7403]
The McIntire-Stennis Cooperative Forestry Act (P.L. 87-788) authorizes certain forestry research programs. [16 U.S.C. 582]	No comparable provision.	Makes the 1890 institutions eligible for McIntire-Stennis forestry research funds. [Sec. 7310]	Adopts Senate provision. [Sec. 7412]
Sec. 1447 of NARETPA authorizes grants to upgrade facilities at 1890 institutions. [7 U.S.C. 3222]	Authorizes \$8 million annually for grants to land grant institutions in insular areas to upgrade agriculture and food science facilities. [Sec. 7237]	No comparable provision.	Amends NARETPA to authorize assistance to insular area land grant institutions, and authorizes \$8 million in annual appropriations through FY2012. [Sec. 7125]

Prior Law/Policy	House-Passed Bill (H.R. 2419)	Senate-Passed Substitute Amendment (H.R. 2419)	Food, Conservation, and Energy Act of 2008 (P.L. 110-246)
Funding for tropical and subtropical research is provided under the Special Research grant program to the land grant institutions in U.S. insular areas. [7 U.S.C. 450j]	No comparable provision.	Within miscellaneous programs, adds authority for a Tropical and Subtropical Agricultural Research competitive grant program limited to the insular area land grant institutions and divided equally between the Caribbean and Pacific basins. Authorizes appropriations of such sums as necessary. [Sec. 7038]	Adds Tropical and Subtropical Agricultural Research to the list of high-priority research and extension initiatives under Sec. 1672 of the 1990 farm bill. Extends authorization of Sec. 1672 through FY2012. [Sec. 7204]
Subtitle K of NARETPA authorizes miscellaneous programs. [7 U.S.C. 3311]	No comparable provision	Establishes a grant program for research, extension, and education programs at land grant institutions in the American Pacific region (AK, HI). [Sec. 7041]	Adds Agricultural Development in the American-Pacific Region to the list of high-priority research and extension initiatives. [Sec. 7204]
Sec. 1425(c)(2)(B) of NARETPA sets a minimum distribution level and a formula for distribution of any annual appropriation for the Expanded Food and Nutrition Education Program (EFNEP) in excess of the previous year's level. [7 U.S.C. 3175]	Authorizes annual appropriations of \$90 million; sets a minimum \$100,000 annual distribution in EFNEP funds to each land grant institution; sets minimum funding percentages for the 1890 institutions through FY2013; establishes a formula to distribute funds to states after FY2013; and establishes UDC's eligibility to receive EFNEP funds. [Sec. 7604]	Establishes UDC's eligibility to receive EFNEP funds. [Sec. 7313] The bill does not contain other comparable provisions in the House bill.	UDC is eligible to receive EFNEP funds [Sec. 7417]. Amends NARETPA to increase the authorization of appropriations to \$90 million annually. Authorizes each institution to receive \$100,000 as a base amount. [Sec. 7116]
Sec. 1417(b)(4) of NARETPA authorizes capacity-building grants for research and teaching at high minority-enrollment institutions. [7 U.S.C. 3152]	Adds extension capacity-building as one of the purposes for which grants and fellowships may be made to high minority-enrollment institutions. [Sec. 7605]	Similar to the House bill. [Sec. 7005]	Adopts House provision. [Sec. 7107]
Sec. 1455 of NARETPA authorizes grants to Hispanic-serving institutions to strengthen educational capacity, and authorized \$20 million annually in appropriations through FY2007. [7 U.S.C. 3241]	Authorizes the grant program through FY2012 at \$20 million annually. [Sec. 7221]	Amends NARETPA to require that Hispanic-serving institutions compete for strengthening grants; and increases the authority for appropriations to \$40 million annually through FY2012. [Sec. 7023]	Adopts Senate provision. [Sec. 7128]
No comparable provision.	Establishes an endowment fund for Hispanic-serving institutions for basic institutional support. Authorizes appropriations through FY2012 for grant	Similar to the House bill. [Sec. 7024]	Amends NARETPA to establish an endowment fund, institutional capacity-building program, and a competitive grant program to benefit Hispanic-serving

Prior Law/Policy	House-Passed Bill (H.R. 2419)	Senate-Passed Substitute Amendment (H.R. 2419)	Food, Conservation, and Energy Act of 2008 (P.L. 110-246)
The definition of “Hispanic-serving institution” in NARETPA is based on a formula found in Sec. 316(b)(1) of the Higher Education Act of 1965. [20 U.S.C. 1059]	programs and for collaborative extension projects at 1862 institutions. [Sec. 7222]	Similar to the House bill. [Sec. 7001]	agricultural colleges and universities; authorizes necessary funds to be appropriated through FY2012. [Sec. 7129]
Sec. 1458 of NARETPA authorizes USDA agencies and land grant institutions to participate in international research, extension, and teaching programs. [7 U.S.C. 3291]	Changes the definition of a Hispanic-serving institution in NARETPA from one based on a formula to one based on the total enrollment of students being at least 25% Hispanic, as it is in the Higher Education Act of 1965. [Sec. 7234]	Similar to the House bill. [Sec. 7025]	Adopts House and Senate provision. [Sec. 7101]
Organic Agricultural Research			
Sec. 1672B of the 1990 farm act, as amended, provides \$3 million annually in mandatory funds to support an organic agriculture research and extension initiative. [7 U.S.C. 5925]	Adds emphasis on the environmental impact of organic farming and on new plant varieties suited to organic farming. Authorizes annual appropriations through FY2012 of \$25 million; and provides \$25 million annually in mandatory funds through FY2012. [Sec. 7310]	Provides \$16 million annually in mandatory funds through FY2012 to support the organic research and extension initiative. [Sec. 7104]	Reflects the House bill language concerning new areas of program emphasis. Provides a total of \$78 million in mandatory funds in FY2009-FY2012. [Sec. 7206]
No comparable provision.	Sense of Congress that in -house funding for ARS research on organic agriculture be at least commensurate with its share of the U.S. food market. [Sec. 7608]	Similar to the House bill. [Sec. 7505]	Deletes House and Senate provisions.
Sec. 7405 of the 2002 farm bill established the Beginning Farmer and Rancher Development program. [7 U.S.C. 3319f]	No comparable provision.	Authorizes annual appropriations of \$30 million through FY2012; permits grants for farmers/ranchers who convert to certified organic production. [Sec. 7309]	Provides \$18 million in mandatory funds for the program in FY2009, and \$19 million in mandatory funds in FY2010-2012. Authorizes \$30 million in annual appropriations (FY2008-FY2012). [Sec. 7410]

Prior Law/Policy	House-Passed Bill (H.R. 2419)	Senate-Passed Substitute Amendment (H.R. 2419)	Food, Conservation, and Energy Act of 2008 (P.L. 110-246)
Specialty Crops Research			
The Specialty Crop Competitiveness Act of 2004 (P.L. 108-465) established a specialty crop committee to inform the Advisory Board on research needs. [7 U.S.C. 3123a(c)]	Expand information that the specialty crop committee provides the Advisory Board to include a comprehensive analysis of the specialty crop sector. [Sec. 7204]	No comparable provision.	Adopts House provision. [Sec. 7103]
Sec. 1672 of the 1990 farm act authorizes research and extension grants on specialty crops as a high-priority research area. [7 U.S.C. 5925]	Adds new specialty crop research initiative to the 1998 research act (AREERA). Authorizes annual appropriations of \$100 million through FY2012; provides \$215 million annually in mandatory funds. [Sec. 7411]	Similar to the House bill, but authorizes \$16 million annually in mandatory funds through FY2012. [Sec. 7211]	Provides \$230 million in mandatory funds over a five-year period for a specialty crop research initiative; provides \$25 million in mandatory funds for specialty crop food safety research grants. [Sec. 7311]
Food safety research is part of USDA's research, extension, and education mission area, and is included in both intra- and extramural programs.	Authorizes USDA to make competitive grants to universities/others to design and implement programs to improve the safety of fresh-cut produce; authorizes appropriation as necessary, with \$25 million annually in mandatory funds through FY2012. [Sec. 7511]	No comparable provision.	Includes a food safety research emphasis in Sec. 7311, above.
Section 1419A of NARETPA authorizes the Secretary to enter into a wide variety of grants and other collaborative agreements with private and public educational institutions, corporations, and individuals to conduct independent research and public policy analysis on food and agriculture. [7 U.S.C. 3155]	Requires the Food and Agricultural Policy Research Institute (a university-based economic research institute, in part supported by federal funds) to establish a corollary institute specializing in specialty crop policy research (drawing on university expertise in states with specialty crop production). [Sec. 7235]	Amends NARETPA to specify four university-based policy research centers as eligible to receive grants under existing authority. Adds specialty crops policy issues as a priority focus for these centers' activities. [Sec. 7009]	Adopts Senate provision. [Sec. 7111]
Bioenergy Research			
No comparable provision.	Establishes a renewable energy committee to report to the Advisory Board concerning research needs and budget recommendations. [Sec. 7203]	No comparable provision.	Amends NARETPA to authorize the establishment of a permanent renewable energy subcommittee to the Advisory Board. [Sec. 7104]
Sec. 404 of the 1998 research act (AREERA) authorizes public-private cooperative agreements to conduct pilot projects to develop biobased products	Extends this authority through 2012. [Sec. 7403]	Contains an identical provision. [Sec. 7204]	Adopts House and Senate provision. [Sec. 7304]

Prior Law/Policy	House-Passed Bill (H.R. 2419)	Senate-Passed Substitute Amendment (H.R. 2419)	Food, Conservation, and Energy Act of 2008 (P.L. 110-246)
with commercial potential, and authorizes the appropriation of such sums as necessary. [7 U.S.C. 7624]	Establishes a bioenergy and biobased products research initiative, coordinated by the National Agricultural Research Program Office, focused on the conversion of biomass to renewable fuels. Authorizes \$50 million annually in appropriations through FY2012. [Sec. 7410]	No comparable provision.	Repeals the authority under NARETPA [Sec. 7110] and amends the 1998 research act (AREERA) to authorize a bioenergy and biobased products research initiative as in the House provision. Incorporates several additional provisions from House bill and Senate amendment energy titles authorizing research on: (1) on-farm renewable energy [H. Sec. 9010 and S. Sec. 9011]; (2) using sweet sorghum and switchgrass to supplement corn as an ethanol feedstock [H. Sec. 9020]; (3) regional biomass crop experiments [S. Sec. 9010]; (4) renewable energy at a laboratory in Colorado [S. Sec. 9022]; and (5) farm energy demonstration projects [S. Sec. 9025]. [Sec. 7207]
No comparable provision.	Establishes a New Era Rural Technology Program that makes grants available to rural community colleges and technical centers to support training a workforce in bioenergy, renewable energy, and pulp and paper manufacturing; authorizes appropriation as necessary. [Sec. 7312]	Similar to the House bill. [Sec. 7043]	Adopts House provision. [Sec. 7137]
Other Research Provisions			
No comparable provision.	Authorizes USDA to establish animal disease laboratories, conduct research on diseases that constitute a threat to the livestock industry, and gives USDA discretion over the importation and movement of live viruses. [Sec. 7108]	Requires USDA to issue a permit to the Department of Homeland Security (DHS) for work on live Foot and Mouth Disease virus at the National Bio- and Agro-defense Lab; clarifies only the Secretary of Agriculture has the authority to grant and revoke such permits. [Sec. 11016]	Adopts Senate provision, but replaces the tern National Bio- and Agro-defense Lab with more general language. [Sec. 7524]

Prior Law/Policy	House-Passed Bill (H.R. 2419)	Senate-Passed Substitute Amendment (H.R. 2419)	Food, Conservation, and Energy Act of 2008 (P.L. 110-246)
Sec. 1433(a) of NARETPA authorizes animal health and disease research. [7 U.S.C. 3195(a)]	Requires the Secretary to encourage cooperation among institutions eligible to receive these funds. [Sec. 7213]	No comparable provision.	Adopts House provision. [Sec. 7118]
The ARS National Animal Disease Center in Ames, Iowa, is currently the highest bio-security lab for animal disease research.	No comparable provision.	Authorizes \$16 million annually through FY2012 to construct a higher-level bio-secure ARS animal health and disease facility in Bozeman, MT. [Sec. 7508]	Deletes Senate provision.
Sec. 1415A of NARETPA authorizes a program to defray the school loans of veterinary medical school graduates who agree to serve for limited time periods in under-served areas. [7 U.S.C. 3151]	No comparable provision.	Amends program to require USDA to favor large and mixed animal practitioner shortages in rural areas in initial phases of program implementation. [Sec. 7003]	Adopts Senate provision and clarifies that large and mixed animal practitioner shortages have priority. Requires USDA to return to the Food Safety and Inspection Service fund that had been transferred to CSREES. [Sec. 7105]
Sec. 1672(e) of the 1990 farm bill, as amended, authorizes USDA to make grants for research and extension projects in a variety of high priority topic areas. [7 U.S.C. 5925]	Adds nine new subjects to the list of high priority research and extension areas. [Sec. 7305]	Adds 14 subjects to the list of high priority research and extension areas. [Sec. 7102]	Adopts House and Senate lists of priority areas to add 23 subjects. Eliminates certain specified areas from the list enacted in the 1990 farm bill; includes some of these in the larger priority area categories in the new law. [Sec. 7204]
Sec. 410 of the 1998 research act (AREERA) provides a one-time transfer of \$8 million in mandatory funds to make grants to four national youth groups to support pilot projects in rural areas; also provides authority for appropriations through FY2007. [7 U.S.C. 7630]	Amends the 1998 act to encourage flexibility in making grants to youth organizations; allows the organizations to redistribute grant funds among themselves; authorizes the appropriation of such sums as necessary through FY2012. [Sec. 7408]	Reauthorizes appropriations through FY2012. [Sec. 7209]	Adopts House provision. [Sec. 7309]
A number of international agricultural research exchange opportunities currently are available under several different statutes.	Authorizes appropriations to establish a Borlaug International Agricultural Science and Technology Fellowship Program to promote collaboration between U.S. and foreign agricultural professionals and international research systems. [Sec. 7606]	Similar to the House bill. [Sec. 7042]	Adopts Senate provision, which amends NARETPA to authorize the program and annual appropriations. [Sec. 7139]
The Act of March 4, 1927, authorizes the establishment of the National Arboretum. [20 U.S.C. 191]	Authorizes the construction of a Chinese garden at the National Arboretum, using federal appropriations. [Sec. 7509]	Also authorizes construction of a Chinese garden at the arboretum, but forbids use of appropriated funds. [Sec. 7312]	Adopts House provision. [Sec. 7415]

Prior Law/Policy	House-Passed Bill (H.R. 2419)	Senate-Passed Substitute Amendment (H.R. 2419)	Food, Conservation, and Energy Act of 2008 (P.L. 110-246)
Subtitle K of NARETPA authorizes miscellaneous programs. [7 U.S.C. 3311]	No comparable provision.	Authorizes appropriations for grants to nonprofits to distribute donated vegetable seeds to community food projects in low-income areas. [Sec. 7046]	Adopts Senate provision. [Sec. 7523]
	No comparable provision.	Authorizes appropriations for grants to support farm safety education/outreach. [Sec. 7047]	Included in Sec. 7204 (high priority research and extension areas).
	No comparable provision.	Authorizes appropriations for grants to increase participation of women/under-represented minorities from rural areas in science, technology, engineering, and math education/careers. [Sec. 7408]	Included in Sec. 7204 (high priority research and extension areas).
	No comparable provision.	Establishes a National Farm Management Center to create a public benchmarking database and to improve farm financial management training. [Sec. 7037]	Authorizes competitive research and extension grants to improve farm management skills and create a financial management database. [Sec. 7208]
	No comparable provision.	Authorizes appropriations for a research program to develop pharmaceuticals and agrichemicals from plant, marine, and microbial sources. [Sec. 7049]	Adopts Senate provision. [Sec. 7525]
	No comparable provision.	Authorizes a \$1 million annual appropriation to support nonprofit research on international anti-hunger and nutrition activities. [Sec. 7050]	Adds the purposes of the Senate provision to the authorization for international agricultural research, extension, and education. [Sec. 7130]
	No comparable provision.	Authorizes appropriations for competitive grants to establish regional centers of excellence in food systems veterinary medicine. [Sec. 7052]	Adds food systems veterinary medicine to the list of high priority research and extension areas. [Sec. 7204]
	No comparable provision.	Authorizes appropriations for land grant institutions to establish regional centers of excellence for agricultural commodities (incl. poultry sustainability); requires matching funds. [Sec. 7039]	Adds regional centers of excellence to the list of high priority research and extension areas. [Sec. 7204]

Prior Law/Policy	House-Passed Bill (H.R. 2419)	Senate-Passed Substitute Amendment (H.R. 2419)	Food, Conservation, and Energy Act of 2008 (P.L. 110-246)
	No comparable provision.	Establishes a farm and ranch stress assistance network to provide behavioral programs to U.S. producers. [Sec. 7044]	Adopts Senate provision. [Sec. 7522]
	No provision.	No provision.	Establishes six regional centers to administer a Sun Grant program making competitive grants for rural biobased energy development and diversification. [Sec. 7526]
	No comparable provision.	Establishes a grant program focusing on critical rural and agricultural transportation and logistics issues facing producers and rural businesses. [Sec. 7051]	Adopts Senate provision with additional language to give priority to collaborative efforts. [Sec. 7529]
No comparable provision.	Prohibits USDA from disposing of land or facilities at the Grazinglands Research Laboratory in El Reno, OK. [Sec. 7109] Authorizes USDA to lease land at the El Reno facility to the University of Oklahoma. [Sec. 7111]	No comparable provision.	Adopts House provisions. [Sec. 7502 and 7503]
No comparable provision.	Requires scientists conducting research on biotech crops to receive training in USDA's biotech regulatory regime. Authorizes the certification of third-party providers of such training. [Sec. 7110]	No comparable provision	Deletes provision.
No comparable provision.	Authorizes appropriations for a grant to update USDA's Nutrient Composition Handbook for Beef. [Sec. 7112]	No comparable provision.	Deletes provision.
No comparable provision.	Sense of Congress that there should be greater support for USDA human nutrition research. [Sec. 7113]	No comparable provision.	Deletes provision.
Sec. 1433 of NARETPA authorizes animal health and disease research. [7 U.S.C. 3195]	Encourages setting priorities for animal health/disease research through regular regional/national meetings. [Sec. 7213]	No comparable provision. Contains the House provision. [Sec. 7119]	
Sec. 1424(b) of NARETPA authorizes a human nutrition research initiative. [7 U.S.C. 3174]	Adds as a focus of human nutrition research examination of the efficacy of current agriculture policies in promoting	No comparable provision.	Adopts House provision. [Sec. 7113]

Prior Law/Policy	House-Passed Bill (H.R. 2419)	Senate-Passed Substitute Amendment (H.R. 2419)	Food, Conservation, and Energy Act of 2008 (P.L. 110-246)
Sec. 1672(d) of the 1990 farm bill, as amended, encourages USDA to give funding priority to high-priority collaborative research proposals. [7 U.S.C. 5925]	the health and welfare of economically disadvantaged populations. [Sec. 7236] Requires USDA to give funding priority to collaborative research grants. [Sec. 7303]	No comparable provision.	Adopts House provision. [Sec. 7203]
The 1990 farm bill authorizes research and extension on aflatoxin. [7 U.S.C. 5925]	Changes the focus of aflatoxin research and extension from controlling aflatoxin to improving and commercializing control technologies. [Sec. 7304]	No comparable provision.	Adds the House bill language to the authority for high priority research and extension projects on aflatoxin. [Sec. 7204]
The 1990 farm bill, as amended, authorizes a nutrient management research and extension initiative. [7 U.S.C. 5925]	Adds dairy cattle waste and regional concerns to the purposes of the nutrient management research and extension initiative. [Sec. 7307]	No comparable provision.	Adds House bill language to section reauthorizing the nutrient management research and extension initiative. [Sec. 7205]
Sec. 1417(i) of NARETPA authorizes a National Food and Agricultural Sciences Teaching Awards. [7 U.S.C. 3152]	No comparable provision.	Adds extension and research to the award program and requires at least one cash award be made per year. [Sec. 7006]	Adopts Senate provision. [Sec. 7108]
Sec. 604 of AREERA, the 1998 research act, authorizes the Food Animal Residue Avoidance Databank. [7 U.S.C. 7642]	No comparable provision.	Authorizes annual appropriations of \$2.5 million through FY2012. [Sec. 7213]	Adopts Senate provision. [Sec. 7312]
USDA's FY2000 appropriations act (P.L. 106-7) authorizes grants for education at Alaska Native- and Native Hawaiian-serving institutions. [7 U.S.C. 3242]	No comparable provision.	Permits the Alaskan consortia of institutions to designate fiscal agents for each member institution, and to allocate funds among members. [Sec. 7308]	Adds Senate bill language to reauthorization of the education grants program at Alaska Native- and Native Hawaiian-serving institutions. [Sec. 7112]
In 1994, the Federal Crop Insurance Reform and Department of Agriculture Reauthorization Act (P.L. 103-354) reorganized USDA, including the merger and realignment of certain research agencies. [7 U.S.C. 6971]	No comparable provision.	Gives USDA authority to exchange, sell, or otherwise dispose of ARS's animals, animal products, plants, and plant products (except for seeds, germplasm). [Sec. 7314] Authorizes a pilot program to allow property at the ARS research center and the National Agricultural Library to be leased out. [Sec. 7316]	Adopts Senate provision. [Sec. 7408]
Research on antibiotic-resistant bacteria in livestock is authorized under general statutory authority for federal and state	No comparable provision.	Authorizes a competitive grant program for targeted research on antibiotic-	Adopts Senate provision. [Sec. 7521]

Prior Law/Policy	House-Passed Bill (H.R. 2419)	Senate-Passed Substitute Amendment (H.R. 2419)	Food, Conservation, and Energy Act of 2008 (P.L. 110-246)
agricultural research.	No comparable provision.	resistant bacteria in livestock. [Sec. 7317]	Adopts Senate provision. [Sec. 7527]
No comparable provision.	No comparable provision.	Directs USDA to prepare a report, in coordination with other federal agencies, on the prevalence of areas in the U.S. with limited access to affordable and nutritious food, and to make recommendations. [Sec. 7504]	
No comparable provision.	No comparable provision.	Requires USDA to prepare a report on: (1) domestic and international markets for products from cloned animals; and (2) the safety of foods from cloned animals (particularly milk). [Sec. 7507]	Deletes provision.
No comparable provision.	No comparable provision.	Provision concerning the recruitment and hiring processes for ARS and the Forest Service, but does not directly affect research policy. [Sec. 7502]	Adopts Senate provision. [Sec. 7528]
No comparable provision.	No comparable provision.	Provision concerning the National Finance Center and National Information Technology Center, but not related to USDA's research mission. [Sec. 7502]	No comparable provision.
Extended Program Authorizations			
Program under prior law.	Comparable provision in some cases.	Comparable provision in some cases.	<ul style="list-style-type: none"> —Human nutrition intervention and health promotion research program [Sec. 7114] —Pilot research program to combine medical/agricultural research [Sec. 7115] —Continuing animal health and disease research [Sec. 7117] —Grants to upgrade agricultural and food sciences facilities at 1890 land grant colleges, incl. Tuskegee University [Sec. 7123] —National research and training virtual centers [Sec. 7126] —Competitive grants for international agricultural science and education [Sec. 7131]

Prior Law/Policy	House-Passed Bill (H.R. 2419)	Senate-Passed Substitute Amendment (H.R. 2419)	Food, Conservation, and Energy Act of 2008 (P.L. 110-246)
			<ul style="list-style-type: none"> —Equipment grants [Sec. 7133] —University research [Sec. 7134] —Extension Service [Sec. 7135] —Supplemental and alternative crops [Sec. 7136] —Aquaculture assistance programs [Sec. 7140] —Rangeland grants [Sec. 7141] —Authorization for biosecurity planning/response [Sec. 7142] —Resident instruction & distance education grants program for insular area institutions of higher education [Sec. 7143] —National genetic resources program [Sec. 7201] —National Agricultural Weather Information System [Sec. 7202] —Assistive technology program for farmers with disabilities [Sec. 7210] —National Rural Information Center Clearinghouse [Sec. 7212] —Integrated research, education, and extension competitive grants program [Sec. 7306] —Fusarium graminearum grants [Sec. 7307] —Bovine Johne's disease control program [Sec. 7308] —Agricultural biotechnology research and development for developing countries [Sec. 7310]

Prior Law/Policy	House-Passed Bill (H.R. 2419)	Senate-Passed Substitute Amendment (H.R. 2419)	Food, Conservation, and Energy Act of 2008 (P.L. 110-246)
			<ul style="list-style-type: none"> —Office of pest management policy [Sec. 7313] —Critical Agricultural Materials Act [Sec. 7401] —Equity in Educational Land-Grant Status Act of 1994 [Sec. 7402] —Agricultural Experiment Station Research Facilities Act [Sec. 7405] —Agricultural Risk Protection Act of 2000 [Sec. 7407] —National Aquaculture Act of 1980 [Sec. 7414] —National Agricultural Research, Extension, and Teaching Policy Act Amendments of 1985 [Sec. 7416]
Repeal of Program Authorizations			
Program under prior law.	Comparable provision in some cases.	Comparable provision in some cases.	<ul style="list-style-type: none"> —Agricultural telecommunications program [Sec. 7209] —Research on honey bee diseases [Sec. 7211] —Partnerships for high value agricultural product quality research [Sec. 7302] —Precision agriculture [Sec. 7303] —Biobased products [Sec. 7304] —Public education regarding the use of biotechnology in producing food for human consumption [Sec. 7411]

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